EXHIBIT "A"

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ATTORNEY-CLIENT PRIVILEGED **CONFIDENTIAL INFORMATION**

Local Docket No. 1167-00

Alcatel Reference No. 135717

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ALCATEL USA INVENTION DISCLOSURE FORM

Please e-mail a **soft copy** of this Form to Jerri Pearson at jerri.peason@usa.alcatel.com and send a **signed paper copy** to Jerri (972 477-9128, Alcanet 2867-9128) at M/S LEGL2. This Form is available on the Alcatel USA Intranet Legal Department site.

Invention Title: OPTICAL FIBER BREAK DETECTION FOR BMU PROTECTION SWITCHING

Inventors:

Full Name	Employee No.	M/S	Phone	Alcanet
Business Division	Alcatel Company	Citizenship	E-mail Address	
Supervisor Name, M/S, Phone No.				
Home Address	City, State, Zip Code			County

Full Name	Employee No.	M/S	Phone	Alcanet
Business Division	Alcatel Company	Citizenship	E-mail Address	
Supervisor Name, M/S, Phone No.				
Home Address	City, State, Zip Code			County

Full Name	Employee No.	M/S	Phone	Alcanet
Business Division	Alcatel Company	Citizenship	E-mail Address	
Supervisor Name, M/S, Phone No.				
Home Address	City, State, Zip Code			County

Inventor Signature(s): 1) ______________________ Date: __________

2) ______________________ Date: __________

3) ______________________ Date: __________

Witness Signatures: I have read and understand this invention disclosure:

1) ______________________ Date: __________

2) ______________________ Date: __________

ATTORNEY-CLIENT PRIVILEGED CONFIDENTIAL INFORMATION

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FIT (Fiche D'Information Technique)
TECHNICAL INFORMATION SHEET
Alcatel USA Invention Disclosure Form

Title: OPTICAL FIBER BREAK DETECTION FOR BMU PROTECTION SWITCHING

Inventor(s) of this FIT: _____ **Date:** March 28, 2000

Originating Business Division/Unit: SRD, Wireline Access

Other Affected Business Divisions: _____

1. **What is the technical problem that was to be solved?**
   For optical communication between Broadband Fiber Bank (BFB) and BMU (in BRX), a single fiber is used for both upstream and downstream traffic. Redundancy adds a second fiber and a second BMU. If the active optical fiber gets severed, the active BMU needs a way to detect this and initiate protection switching to the redundant second fiber and BMU.

2. **What were the best existing solutions (known to the inventor)?**
   Operate both fibers and BMUs in parallel with identical SONET payloads, and detect higher error rates in one than in the other.

3. **Why were these existing solutions not good enough?**
   Requires both BMUs to be active simultaneously.

4. **What is the basic idea of the new solution described here?**
   Please make clear how this is different from the existing solutions.
   If the active fiber gets cut, it acts as a mirror, reflecting any upstream traffic back to the BMU. In order to detect a cut fiber, we use a predetermined pattern byte (the "C2" Byte) in each SONET frame, upstream and downstream. The pattern for upstream traffic (generated by BMU) is different from the pattern for downstream traffic (generated by BFB). Accordingly, if the BMU receives what it believes is a downstream frame, but it contains the upstream pattern in the C2 byte, then it knows the fiber has been cut and triggers a protection switch to the redundant fiber and the redundant BMU. (The handoff itself, to the redundant fiber and BMU, is conventional and described in SONET 253 spec.)

5. **Short description of the new solution, including how it accomplishes what it does.**
   It is usually helpful to give an example and a drawing.
   Extra pages or portions of a report may be included.
   See BRX System Architecture spec, ES0439, Ver. 1.0, 7/1/99, Sec. 6.2, especially 6.2.2, attached hereto.

6. **Advantages of the new solution compared to the existing ones. Quantify if possible.**

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7. Disadvantages of the new solution compared to the existing ones. Quantify if possible.

8. Has the new solution been confirmed to be workable by simulation, experiment or use? _____
If not, is such confirmation planned? _____ When is it expected? _____
Is implementation planned? _____ If so, when is a functioning model expected? _____
Is use in an Alcatel product planned? _____ If so, which product? _____